

REMARKS

Claims 1-10, 13-16, and 18 are currently pending. Claims 11, 12, and 17 have been canceled without prejudice or disclaimer. Claim 1 has been amended to incorporate the subject matter of canceled claim 11. Claim 2 has been amended to incorporate the subject matter of canceled claim 12. Claim 15 has been amended to incorporate the subject matter of canceled claim 17. It is respectfully submitted that no new matter has been added.

Claim Objections

The Patent Office objected to claims 11 and 12 for informalities. The subject matter of claims 11 and 12, now incorporated into claims 1 and 2 respectively, has been amended to change "note" to "node." Applicant respectfully requests that the Patent Office remove its objection to claims 11 and 12.

Anderson, U.S. Patent No. 6,148,198, compared to Amended Independent Claims 1, 2, and 15

Applicant has amended independent claims 1, 2, and 15. Applicant does not admit implicitly or explicitly that such amendment was necessitated by the prior art of record.

An aspect of the disclosed and claimed invention is that the number of nodes present within each overlapping region is counted without using a received signal strength indicator. Unlike Anderson who performs the counting using RSSI, in Applicant's claimed invention, a mobile node only needs to check whether or not any node is present within its own communication zone. Once a mobile node detects a received signal from each node, it recognizes the node present within its own communication zone and counts the number of nodes regardless of a received signal strength indicator. Since Anderson measures RSSI and counts the number of nodes based on RSSI, if a received RSSI is less than a predetermined value, Anderson will not count those nodes.

Claim Rejections under 35 U.S.C. 103(a)

The Patent Office rejected claims 1-4, 11, 12, and 15-17 under 35 U.S.C. 103(a) as being unpatentable over Anderson, U.S. Patent No. 6,148,198, in view of Cohen, U.S. Patent No. 5,465,390.

According to an embodiment of the present invention, there are no base stations, and each of the mobile nodes communicates with each other nodes directly without employing a base station or a base node, so that there is one type of node only, that is, a mobile node.

An aspect of the present invention is that the number of nodes present within each overlapping region is counted without using a received signal strength indicator. Anderson performs the counting using RSSI (see, e.g., column 5, line 28, through column 6, line 49). Therefore, claims 1, 2, and 15 are further patentably distinguishable from Anderson.

Furthermore, Applicant disagrees with the Patent Office's response to arguments section on pages 2-3, of the Final Office Action dated January 24, 2008. Anderson is concerned with finding a best service provider. The overlap counter is disclosed in claim 10 of Anderson as being used to select the best service provider where service providers fall into five categories: home service provider, partner service provider, favored service provider, forbidden service provider, and neutral service provider (column 3, lines 39-52), but does not use the overlap counter to count the number of neighbor nodes of a mobile node or the number of neighbor nodes for each of the neighbor nodes of the mobile node.

In Anderson, the overlap counter is updated based on iteration process, which has a maximum limit and the overlap counter is used for checking where the iteration process needs to be stopped or not –if the maximum threshold is exceeded (see fig.3 and column 7 lines 4-13).

The overlap counter does not tell anything about “counting the number of nodes present within each overlapping region between a communication zone of the mobile node and communication zones of each of the specified nodes” as recited by the claimed invention.

In fact, the overlap flag in Anderson is either set or not set, and it is not seen how Anderson would be able to even count “counting the number of nodes present within each overlapping region between a communication zone of the mobile node and communication zones of each of the specified nodes.” Cohen does not remedy this deficiency since it does not disclose or suggest “counting the number of nodes present within each overlapping region between a communication zone of the mobile node and communication zones of each of the specified nodes.”

Furthermore, neither Anderson nor Cohen disclose the following claimed subject matter:
selecting, as a candidate node for next communication with the mobile

node, the specified node in the communication zone of which the largest number of nodes have been counted,

counting the number of specified nodes in each of the communication nodes of a specified node of the mobile node, or

selecting, as a candidate node for next communication with the mobile node, the neighbor node in the communication zone of which a large number of specified nodes have been counted

Thus, claims 1-4, 15, and 16 are allowable over Anderson in view of Cohen.

The Patent Office rejected claims 5-8 under 35 U.S.C. 103(a) as being unpatentable over Anderson in view of Cohen, and further in view of Hronek, U.S. Patent No. 6,564,055.

The Patent Office asserted that Anderson and Cohen fail to teach the mobile node performs specifying, counting and selecting at predetermined periods and that Hronek teaches this difference in column 9, lines 36-42.

Hronek in column 9, lines 36-42, discloses as follows:

Other triggers for activating a location based IRDB manager 100 to determine if a new or updated IRDB need be downloaded to a particular mobile device 830 are possible and within the scope of the present invention. For instance, a time-of-day based system may determine at a particular time each day whether or not a particular mobile device 830 requires a new or updated IRDB.

How does the cited passage of Hronek disclose the claimed subject matter of “the mobile node performs said specifying, said counting, and said selecting at predetermined periods” of claim 5 or “the mobile node performs said specifying the neighbor nodes present within the communication zone of the mobile node, said specifying the neighbor nodes present within the communication zones of the neighbor nodes, said counting, and said selecting at predetermined periods” of claim 6?

Also, the passage of Hronek discloses that the IRDB manager 100 downloads to a mobile device 830 which is different from the cited claim language of claims 5 and 6 where the mobile node itself performs specifying, counting and selecting at predetermined periods.

Thus, claims 5-8 are allowable over Anderson in view of Cohen and further in view of Hronek.

The Patent Office rejected claims 9, 10, and 18 under 35 U.S.C. 103(a) as being

unpatentable over Anderson, Cohen, and Haas, U.S. Patent No. 6,304,556.

The Patent Office asserted that neither Anderson nor Cohen disclose the specified nodes are mobile nodes and that Haas in column 4, lines 47-56 remedies this deficiency.

Haas in column 4, lines 47-56, discloses as follows:

The present invention overcomes the drawbacks of previous network protocols through provision of two new protocols, one for routing and one for mobility management, both of which are particularly well-suited for use within ad-hoc networks. The routing protocol is a proactive-reactive hybrid routing protocol-called the Zone Routing Protocol (ZRP)- that allows efficient and fast route discovery in the ad-hoc network communication environment (i.e., large geographical network size, large number of nodes, fast nodal movement, and frequent topological changes).

Haas does disclose finding a route from a source node to a destination node as illustrated in Figure 4. Haas in column 8, line 37, through column 9, line 18, discloses two methods: a cluster head method and a method of distributed mobility management. In the cluster head method, routing occurs from the source node to its cluster head to the destination cluster head to the destination node. In the distributed mobility management scheme, certain nodes in the network assume the mobility management function. This is quite different from Applicant's claimed invention in which numbers of nodes in the communication zones of the mobile node and its neighbor nodes are counted to determine a next node for communication.

Accordingly, claims 9, 10, and 18 are allowable over Anderson in view of Cohen and further in view of Haas.

The Patent Office rejected claims 13 and 15 over Anderson in view of Cohen and further in view of Agrawala, U.S. Published Patent Application No. 2005/0020275.

The Patent Office asserted that Anderson and Cohen do not teach the specified nodes are uniformly dispersedly arranged and that Agrawala is alleged to teach this difference in paragraph 0031.

Agrawala, in paragraph 0031, discloses as follows:

FIG. 1 illustrates an embodiment of a wireless multinodal communications system 100 of the present invention. System 100 includes a widely distributed network of wireless communications nodes 102a-102n (collectively referred to herein as "communications nodes

Serial No.: 10/500,404
Art Unit: 2617

102"). As discussed above, system 100 can be implemented in a variety of mobile and/or non-mobile wireless networks, including sensor-based applications. Additionally, communications nodes 102 are positioned in three-dimensional space.

Agrawala discloses nodes transmitting and receiving measurement messages which are exchanged with other nodes. Agrawala does not disclose numbers of nodes in the communication zones of the mobile node and its neighbor nodes are counted to determine a next node for communication.

It is respectfully submitted that the rejections of claims 1-18 under 35 U.S.C. 103(a) based on Anderson and Cohen, whether or not in combination with Hronek, Haas, or Agrawala, have been overcome, and it is respectfully requested that the Patent Office reconsider and remove the rejections of these claims. The Patent Office is respectfully requested to favorably consider and allow all of the pending claims 1-10, 13-16, and 18 as now presented for examination. An early notification of the allowability of claims 1-10, 13-16, and 18 is earnestly solicited.

Serial No.: 10/500,404
Art Unit: 2617

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6/18/2008 Clairine F. Main
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